

THE INVENTION CLAIMED IS:

1 1. A method of deskewing parallel data streams,
2 comprising:
3 receiving a plurality of data streams;
4 storing each of the received data streams in a
5 respective buffer;
6 detecting synchronization signals in the data
7 streams; and
8 controlling the buffers to read out the stored
9 data streams on the basis of the detected synchronization
10 signals.

1 2. The method of claim 1, wherein the plurality
2 of data streams consists of two data streams.

1 3. The method of claim 1, wherein the detecting
2 step includes reading synchronization signals in the data
3 streams stored in the buffers.

1 4. The method of claim 1, wherein the
2 controlling step includes controlling respective read
3 pointers of the buffers to simultaneously point at
4 synchronization signals stored in the buffers.

1 5. The method of claim 1, wherein each of the
2 data streams is received via a respective receiver port.

1 6. The method of claim 5, wherein each of the

2 data streams is received via a respective optical fiber.

1 7. A method of deskewing parallel data streams,
2 comprising:

3 receiving a plurality of data streams;

4 storing each of the received data streams in a
5 respective buffer;

6 comparing respective timings of the received data
7 streams; and

8 controlling read pointers of the buffers on the
9 basis of a result of the comparing step.

1 8. The method of claim 7, wherein the comparing
2 step includes reading synchronization signals from the data
3 streams stored in the buffers.

1 9. The method of claim 7, wherein the plurality
2 of data streams consists of two data streams.

1 10. The method of claim 7, wherein each of the
2 data streams is received via a respective receiver port.

1 11. The method of claim 7, wherein each of the
2 data streams is received via a respective optical fiber.

1 12. The method of claim 7, wherein the
2 controlling step includes controlling respective read
3 pointers of the buffers to simultaneously point at
4 synchronization signals stored in the buffers.

1 13. An apparatus adapted to deskew parallel data
2 streams, comprising:

3 a first port adapted to receive a first data
4 stream;

5 a second port adapted to receive a second data
6 stream;

7 a first buffer coupled to the first port and
8 adapted to store the received first data stream;

9 a second buffer coupled to the second port and
10 adapted to store the received second data stream; and

11 a deskew circuit coupled to the first and second
12 buffers and operative to:

13 detect synchronization signals in the first
14 and second data streams; and

15 control the first and second buffers to read
16 out the stored first and second data streams on the basis of
17 the detected synchronization signals.

1 14. The apparatus of claim 13, wherein the deskew
2 circuit detects the synchronization signals by reading the
3 synchronization signals in the first and second data streams
4 respectively stored in the first and second buffers.

1 15. The apparatus of claim 13, wherein the first
2 buffer, the second buffer and the deskew circuit are
3 implemented in a programmable logic device or an application
4 specific integrated circuit.

1 16. The apparatus of claim 13, wherein the first
2 port is coupled to a first optical fiber and the second port
3 is coupled to a second optical fiber.

1 17. The apparatus of claim 13, wherein the deskew
2 circuit controls respective read pointers of the first and
3 second buffers to simultaneously point at synchronization
4 signals stored in the first and second buffers.

1 18. An apparatus adapted to deskewing parallel
2 data streams, comprising:

3 a first port adapted to receive a first data
4 stream;

5 a second port adapted to receive a second data
6 stream;

7 a first buffer coupled to the first port and
8 adapted to store the received first data stream;

9 a second buffer coupled to the second port and
10 adapted to store the received second data stream; and

11 a deskew circuit coupled to the first and second
12 buffers and operative to:

13 compare respective timings of the received
14 first and second data streams; and

15 control read pointers of the buffers on the
16 basis of a result of the comparison of the respective
17 timings of the received first and second data streams.

1 19. The apparatus of claim 18, wherein the first
2 buffer, the second buffer and the deskew circuit are

3 implemented in a programmable logic device or an application
4 specific integrated circuit.

1 20. The apparatus of claim 18, wherein the first
2 port is coupled to a first optical fiber and the second port
3 is coupled to a second optical fiber.

1 21. The apparatus of claim 18, wherein the deskew
2 circuit controls respective read pointers of the first and
3 second buffers to simultaneously point at synchronization
4 signals stored in the first and second buffers.

1 22. A method of deskewing parallel data streams,
2 comprising:
3 providing a pair of buffers, each for storing a
4 respective one of the data streams;
5 reading out respective signals from at least one
6 of the pair of buffers;
7 determining that one of the signals read out from
8 one of the buffers is a synchronization signal; and
9 responsive to the determining step, holding a read
10 pointer of the one of the buffers from which the
11 synchronization signal was read out until a synchronization
12 signal is read out from the other one of the buffers.

1 23. An apparatus for deskewing parallel data
2 streams, comprising:
3 a first port for receiving a first data stream;
4 a second port for receiving a second data stream;

5 a first buffer coupled to the first port for
6 storing the received first data stream;

7 a second buffer coupled to the second port for
8 storing the received second data stream; and

9 a deskew circuit coupled to the first and second
10 buffers and operative to:

11 read out respective signals from at least one
12 of the first and second buffers;

13 make a determination that one of the signals
14 read out from one of the buffers is a synchronization
15 signal; and

16 respond to the determination by holding a
17 read pointer of the one of the buffers from which the
18 synchronization signal was read out until a synchronization
19 signal is read out from the other one of the buffers.